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ABSTRACT

This introduction to Phase II, of a four-phase study, provides information on the background of the California Educational Technology Assessment Project (CETAP), the legislative history and rationale for the study, and the general evaluation plan. Phase II presents an in-depth formative and summative assessment of six major programs funded by AB 1470--the Farr-Morgan-Quackenbush Educational Technology Act of 1989. The six programs studied in this phase are: (1) the first year of schools receiving School-Based Educational Technology Grants; (2) Model Technology Schools (Level I); (3) Level II Model Technology School Projects; (4) Instructional Television Regional Agencies; (5) Software Development Projects; and (6) the California Technology Project and its regional consortia. Six priorities for the evaluation of the educational technology programs included: site-based technology use planning; level of implementation; curriculum support and alignment; staff development; learning resources management; and evaluation and accountability. It is noted that the data gathered for the study were concerned with the cost-benefits of each program; the extent to which program objectives and activities were implemented; the extent of integration and support of the curriculum frameworks; the influence of the programs on school planning for technology use; the coordination of projects with existing programs and resources; and the impact of projects on students, staff, and instructional programs. (Contains 78 references.) (AEF)

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Comprehensive Study of Educational Technology Programs Authorized from 1989-1992

Phase II of the Comprehensive Study of
Educational Technology Programs
Authorized from 1984-1992

Introduction

December 20, 1991

Submitted to:
California Department of Education
Office of Educational Technology
721 Capitol Mall, 3rd Floor
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Phase II of the Comprehensive Study of Educational Technology Programs Authorized from 1984-1992

Introduction

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Comprehensive Study of Selected Educational Technology Projects, 1989-91

Overview and General Plan for the Study

Report Overview: The first section of this report provides: 1) the background of the *California Educational Assessment Technology Project* (CETAP), 2) the legislative history and rationale for the study, and 3) the general evaluation plan for the study. The following six volumes each address one of the six programs and projects studied in Phase II of the study. Each section provides: 1) a detailed description of the program evaluated, 2) the evaluation procedures specific to that program, 3) the findings by project component, 4) summary and recommendations for the program and, 5) the instrumentation used to gather the data.

I. Background

The in-depth evaluation of the state's educational technology programs was conducted by the Far West Laboratory for Educational Research and Development (FWL) and the American Institutes for Research (AIR). FWL is the prime contractor with the California Department of Education (CDE), and AIR was a subcontractor to FWL for this project. Specifically, FWL is responsible primarily for the following: 1) evaluation of fourteen selected AB 803 programs and projects; 2) evaluation of five AB 1470 programs, including the School-Based Educational Technology Grant program, the Level II Model Technology School Projects, Instructional Television (ITV), the California Technology Project (CTP), and Software Development; and 3) production of evaluation templates and guidelines for 1 and 2 above. AIR is responsible primarily for the following: 1) evaluation of the six Level I Model Technology Schools (MTS) Projects, 2) a cost-benefit analysis of the six programs included in Phase II of the study, 3) an "evaluability" analysis of all projects and programs, and 4) collaboration with the FWL staff in analysis and reporting of the project findings.

The official starting date for CETAP established by the CDE was October 1, 1990. Periodic updates and interim findings related to this study have been provided to the CDE and the Educational Technology Committee. The *Refinement of the CETAP Evaluation and the First Cumulative Progress Report* was submitted and approved by the Office of Educational Technology and was also distributed to the Educational Technology Committee.

This report is the second phase of a five phase study. Phase I is a descriptive study of educational technology projects and programs funded by AB 803 from 1984 to 1989. Phase II of CETAP provides a review of the in-depth formative and summative assessment of six major programs currently funded by AB 1470 -- the Farr-Morgan-Quackenbush Educational Technology Act of 1989. These six programs are: 1) the first year of schools receiving School-Based Educational Technology Grants; 2) Model Technology Schools (Level I); 3) Level II Model Technology School Projects; 4) Instructional Television Regional Agencies; 5) Software Development Projects; and 6) the California Technology Project and its regional consortia.

To conduct the evaluation a broad base of data was gathered to answer a wide range of questions about: 1) cost-benefits of each program, 2) extent to which program objectives and activities were implemented, 3) extent of integration and support of the curriculum frameworks, 4) influence of the programs on school planning for technology use, 5) coordination of projects with existing programs and resources, and 6) impact of projects on students, staff, and instructional programs. The Phase II report provides a description of each program, the evaluation and data collection methodology, review of findings, and brief conclusions and recommendations for each of the six programs. An in-depth analysis of Phase II information with answers to the evaluation questions will comprise the Phase III report of the CETAP.

II. Legislative Overview and Mandate for the Evaluation

Legislative Intent of AB 1470. In approving AB 1470 the Legislature declared educational technology to be a valuable tool for improving and expanding instruction to meet the evolving needs of all California pupils, offering benefits to students in every grade, at all levels of ability and in all geographic regions. The legislation provided several guidelines for schools:

- Representatives from all educational levels and from the business community should be involved in planning and establishing educational technology policy.
- Instructional technology uses should be developed, implemented and evaluated at the school level with district, regional, state and private sector support.
- Resources should be identified and utilized which will improve staff development programs in applications of instructional technology.
- Each program should encourage equal access for all pupils while allowing for uses targeted by grade, subject area, or special needs.

Major Elements of AB 1470. AB 1470 continues portions of AB 803, the Educational Technology Local Assistance Program. It features, however, a significantly modified version of school-site grants, now known as School-Based Educational Technology Grants. AB 1470 added a new program of Research and Development Grants and continues funding for the six MTS Level I projects and six MTS Level II sites. The Act includes another new program category, the Regional Assistance Program, that re-authorizes the California Technology Project (CTP) and the regional ITV Agencies. The legislation reestablishes the Educational Technology Committee with increased representation from K-12 teachers, higher education faculty members, and business leaders. It also established the California Planning Commission for Educational Technology, responsible for developing a long-range educational technology master plan for the state. The master plan will include input from the Model Technology School (MTS) Projects, the Educational Technology Committee, the CDE, the California Post-Secondary Education Commission, and leaders in business and industry.

AB 1470 also defines major areas of emphasis for programs prescribed in the bill including school-based technology use planning, coordination with state curriculum and instruction initiatives, effective staff development, and evaluation of the impact of the programs on teaching and learning. The evaluation component of AB 1470 was given greater emphasis with the recent signing of SB 1201 which amended AB 1470 by adding language. Senate Bill 1201 requires evaluation of the impact of the ITV agencies on local program implementation and directs that the results of the evaluation of AB 1470 programs be submitted to the California Planning Commission on Educational Technology. Figure 1, below, illustrates the major components of AB 1470.

Priorities of AB 1470. In developing guidelines for implementation of AB 1470, the CDE developed priorities for the program based on a combination of legislative intentions and instructional initiatives established by the CDE. These state priorities, included in the guidelines for developing School-Based Educational Technology Grants (California Department of Education, 1990), are as follows:

- Increase the use of coordinated school-based planning for the utilization of technology.
- Ensure that school-level technology use is articulated with district programs and planning.
- Facilitate the alignment and integration of technology into the curriculum.
- Increase the access to and use of technology through effective management of learning resources.
- Develop collaborative partnerships with business and industry and higher education.
- Improve the quality and effectiveness of instruction and learning through the use of technology.
- Increase levels of use of technology as a tool to improve instructional programs and practices.
- Evaluate the impact of technology on teaching, learning, planning, and resource utilization.

One of the conditions for funding both the re-authorization of the existing educational technology programs and the establishment of new programs under AB 1470 was the "independent evaluation of all program components. The evaluation, funded with program funds, shall include procedures . . . for the effective utilization of evaluation information to develop policy for use of educational technology" (Sec. 51876.5 [e] EC Chapter 1334). The RFP which prompted this proposal was designed to fulfill this requirement and to provide additional evaluation information deemed necessary by the CDE.

Addressing Legislative and CDE Priorities. In planning and conducting this study FWL and AIR focused upon the expressed concerns of the Legislative Analyst and the requirements for an independent state-wide evaluation of educational technology specified in AB 1470. The evaluation design emphasizes both formative assessment of program implementation and summative assessment of educational and program outcomes. Refinements of the evaluation plan were made in consultation with the Educational Technology Committee, the California Department of Education, and many others. Every effort was made to conduct the evaluation with consistency across projects and programs. The evaluation reports can be expected to serve as primary sources of information for the California Planning Commission for Educational Technology and the California Department of Education in developing the state master plan for educational technology. In general, the evaluation study should play a key role in shaping future policy, planning, implementation, and evaluation of educational technology in California.

III. The Evaluation Plan

Major Emphasis. The study of state-supported educational technology programs was designed to assess the impact of the programs in terms of implementation of program priorities established by the CDE and AB 1470. In the evaluation plan, these priorities have been categorized into a set of six areas of emphasis that were used in developing the general evaluation questions for both Phase I and Phase II.

A. Six Priorities for Educational Technology Programs:

1. **Site-Based Technology Use Planning:** The degree to which educational technology is incorporated as an instructional strategy into school-level planning.

2. **Level of Implementation:** The level of implementation of all six of the programs including supporting and impeding factors.

3. **Curriculum Support and Alignment:** The degree to which the educational technology programs and applications are integrated with the State Curriculum Frameworks.

4. **Staff Development:** The impact and availability of staff development made possible by the Educational Technology Local and Regional Assistance Programs.

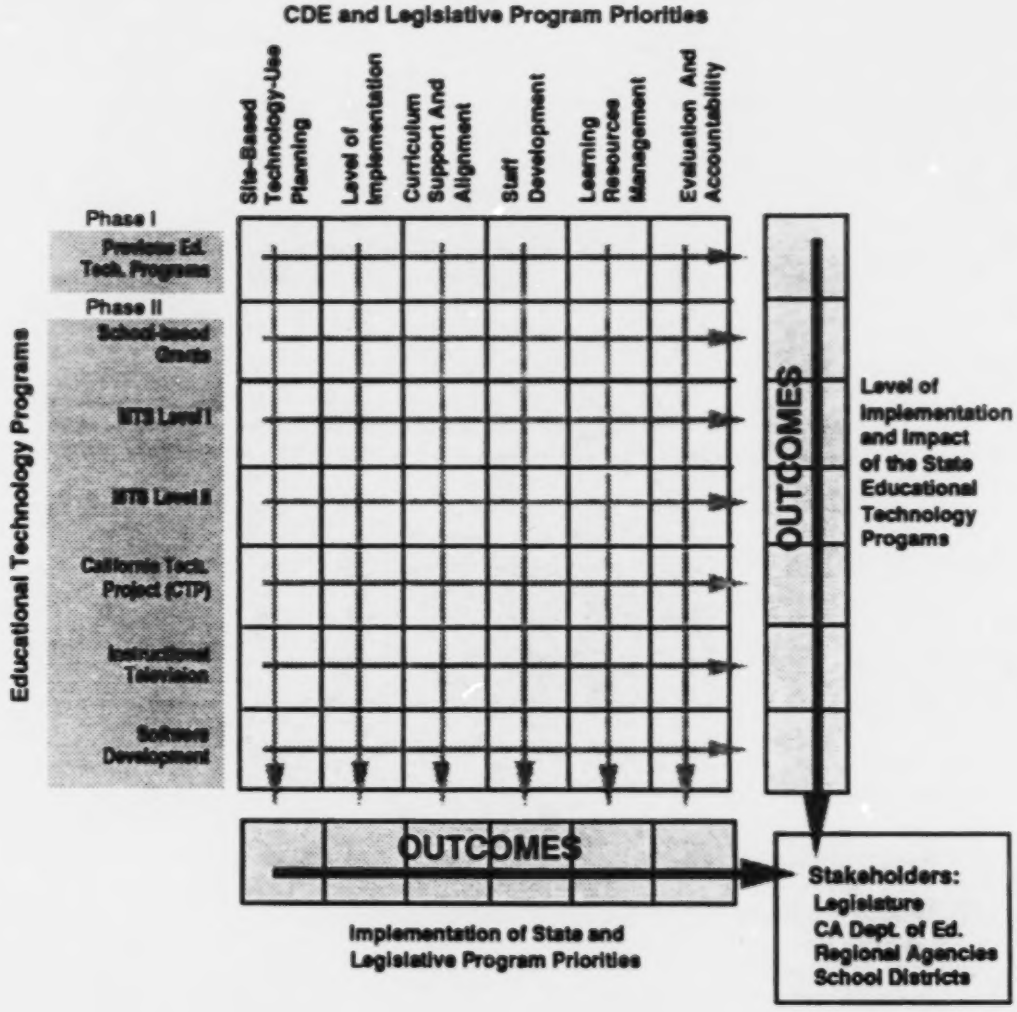
5. **Learning Resources Management:** The degree to which the programs facilitated the effective management of learning resources.

6. **Evaluation and Accountability:** The degree to which formative and summative evaluation efforts were made by the six programs.

Figure 2 illustrates the basic evaluation design. The Phase I and Phase II evaluated educational technology programs are listed on the vertical axis; the six state program priorities are listed on the horizontal axis. In addition to 19 AB 803 programs in Phase I there are six AB 1470 programs to be evaluated in Phase II. The FWL-AIR evaluation provides information on outcomes both "across" the rows of the diagram for the effects of the various programs on each priority and "down" the columns of the diagram for the ways in which each of the state priorities was accomplished in each of the programs. For example, the School-Based Educational Technology Grant program was examined in terms of impact upon each of the state priorities, such as site-based planning, and was examined in terms of overall impact across all of

the priorities. In the same way, the priority on site-based planning was examined in terms of how it was accomplished in each of the six programs. The analysis of outcomes provides information of interest to stakeholder groups and policy makers including schools and school districts, regional agencies and consortia, the CDE, and the Legislature.

Figure 2: Evaluation Design



Phase II Evaluation Plan: The six educational technology programs have undergone intensive study in Phase II. The evaluation methodologies were designed to address questions that are unique to the objectives of each program and questions related to CDE and legislative priorities. Phase II provides intensive assessment, including information and data on the needs, objectives, and major state-level activities addressed by each program as well as responses to specific evaluation questions. There are three categories of questions to be addressed in Phase II: general questions, project-specific questions, and policy questions. The general evaluation questions addressed in Phase II include the 14 stated in the RFP plus additional questions identified by the evaluation staff. A set of evaluation questions was devised and categorized according to the initiatives and priorities for assessment. The instrumentation used to gather the information needed to answer each of the questions is shown in the project-specific instrumentation matrices in each of the six sections of this report. A copy of each assessment instrument is included at the end of each section of the report.

Assessment Procedures: Assessment instrumentation was designed to answer each of the evaluation questions for each of the six programs studied. Most of the instruments are being adapted for additional future use and will be included as the major component of the Phase IV section of this project. All instruments were designed with input from staff of the projects being evaluated, the CDE Office of Educational Technology, and the CETAP Project Advisory Committee. Instrumentation was field tested, reviewed, edited, and administered to the selected target populations.

Details regarding each assessment instrument and its specific questions are incorporated into the report for each of the six programs. Procedures and schedules of the evaluation administration are also discussed in each section. Copies of each of the CETAP Assessment Instruments are included as the appendix for each of the six project components. The following pages include *selected references* used as supplementary information sources for this report. All assessments were administered during the spring of 1991. Table one lists the instrumentation and assessment procedures with the number of planned recipients and the number who actually completed the assessment for each of the six programs studied.

Table 1. Assessment Procedures and Number of Assessments Planned and Completed for the CETAP

Phase II Assessment Procedures	Number Planned	Number Completed
1.0 School-Based Educational Technology Projects		
Self-Assessment Inventory	367	285
Telephone Interview Questions	30	30
Teacher Survey of Technology Use	500	319
Student Survey of Technology Use	700	523
Site Interviews and Observations	18	18
2.0 Level I Model Technology Schools (AIR Subcontract)		
Self-Assessment Inventory	6	6
Teacher Survey	1091	568
Elementary Student Questionnaire	-	1060
Secondary Student Questionnaire	-	1269
Site Interviews and Observations	6	6
Visitor Survey	-	357
3.0 Academic Technology Model Programs (Level II)		
Self-Assessment Inventory	6	6
Site Interviews and Observations	6	6
Teacher Survey of Technology Use	65	53
Student Survey of Technology Use	1,000	800
4.0 Instructional Television		
Self-Assessment Inventory*	7/7	7/6
Assessment of ITV and Media Services	70	39
CPB Survey: California Addendum-District Office	200	138
CPB Survey: California Addendum-Principals	522	419
CPB Survey: California Addendum-Teachers	1,035	632
CPB Survey: All items for District, Principals, Teachers	1,757	1,757
5.0 Software Development Projects		
Self-Assessment Inventory	6	5
Software User Survey	100 +	33
6.0 California Technology Project		
Self-Assessment Inventory*	14/14	13/13
Assessment of Services	900	311
Telephone Survey	14	14
Other Data Collection		
Follow-up telephone survey of summer institute participants	73	73

* *Inventories collected for 1989-90 and 1990-91*

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